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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,000	07/31/2001	Peter H. Kay	9236/2002	7078

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EXAMINER

GOLDBERG, JEANINE ANNE

ART UNIT PAPER NUMBER

1634

DATE MAILED: 04/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action</b>	<b>Application No.</b> 09/920,000	<b>Applicant(s)</b> KAY, PETER H.	
	<b>Examiner</b> Jeanine A Goldberg	<b>Art Unit</b> 1634	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 10 April 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
  - (b) ☐ they raise the issue of new matter (see Note below);
  - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
  - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Continuation Sheet.

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: NONE.

Claim(s) objected to: NONE.

Claim(s) rejected: 1-18.

Claim(s) withdrawn from consideration: NONE.

8. ☐ The proposed drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
10. ☐ Other: \_\_\_\_\_

  
**GARY BENZION, PH.D.**  
**SUPERVISORY PATENT EXAMINER**  
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## Continuation of 2. NOTE:

The claim contains the recitation "the nucleic acid sample" which lacks proper antecedent basis and raises 112/2nd issues. Moreover, the claim has been broadened such that the claim no longer requires any spatial proximity between the stems. Therefore, new search may be required.

Continuation of 5. does NOT place the application in condition for allowance because:

With respect to the 102(e) rejection over Tyagi: It is noted that the amendments would not be entered upon appeal due to the broadening scope and new 112/2<sup>nd</sup> issues, however, merely in an effort to facilitate compact prosecution, the examiner has provided an analysis as to why the new amendment would not overcome the Tyagi reference.

The response asserts that Claim 18 requires that the region of the nucleic acid sample is susceptible to methylation. This argument has been thoroughly reviewed, but is not found persuasive because the loop sequence has a region of nucleotides complementary to at least a region of the nucleic acid sample, which region is susceptible to methylation. This limitation does not limit the claim. The loop sequence is generically complementary to at least a region which is susceptible to methylation. Therefore, any probe containing a C or G is susceptible to methylation such that the claim is anticipated. The claim is not drawn to any specific region or any specific methylation region or any required length to the region. Therefore Tyagi anticipates the claim.

With respect to the 103 rejections the response asserts that there is no teaching or suggestion to combine, i.e. no motivation. The response picks a sentence from the examiner's response and states that there is no motivation. The examiner however directs applicant's attention to the original rejection for motivation for detecting differences in nucleic acid properties such as methylation using melting temperatures. As provided in the original rejection "detecting nucleic acids based upon different melting temperatures and dissociation properties was used to identify mismatches in nucleic acids. Both Ehrlich and Hua teach that methylated DNA and unmethylated DNA have different melting temperatures. The ordinary artisan would have recognized based upon the teachings that in the art, namely Ehrlich and Hua, that in addition to mismatched DNA, methylation could also be detected based upon different melting temperature and dissociation rates. Combining the teachings of Elsas and either Ehrlich or Hua would yield an assay which would detect methylated nucleic acids as compared to unmethylated nucleic acids." The teachings in the art directed to detecting DNA differences by using melting temperatures would suggest to the ordinary artisan that any known differences in DNA which have different melting temperatures could be analyzed using these methods. Unlike the suggestion in applicant's response, this is not an obvious to try application. The ordinary artisan would have had a reasonable expectation of success in detecting DNA methylation by detecting variances in melting temperature as suggested by the references.

The response argues that none of the additional references remedy the deficiencies of Elsas, Ehrlich, Hua, Tyagi or Coull. As discussed above, the arguments are not persuasive for the reasons above. Moreover, the response argues that Tyagi and Ahern do not render obvious Claim 18 for the reasons discussed in the 102(e) rejection above. These arguments are not persuasive for the reasons above.